

## REMARKS

### INTRODUCTION:

Claims 1, 2, 4-8, 10, 11, 13-15 and 17-23 are pending and under consideration. Reconsideration is requested.

### REJECTION UNDER 35 U.S.C. §103:

In the Office Action, at page 2, the Examiner rejected claims 1, 2, 4-8, 10, 11, 13-15, and 17-23 under 35 U.S.C. §103(a) as being unpatentable over Rahamin et al. (U.S. Patent No. 6,081,586 – hereinafter Rahamin) in view of Dahan et al. (U.S. Patent No. 6,611,580 - hereinafter Dahan) or Frantz et al. (U.S. Patent No. 5,802,169 - Franz). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicant traverses this rejection and respectfully requests reconsideration.

As a general matter, to establish a prima facie obviousness rejection, the Examiner needs to provide both the existence of individual elements corresponding to the recited limitations, and a motivation to combine the individual elements to create the recited invention. (See MPEP, at 2143.03, and 2143.01). Should the Examiner fail to provide evidence that the individual elements exist in the prior art, or that the motivation exists in the prior art or in the knowledge generally available to one of ordinary skill in the art, then the Examiner has not provided sufficient evidence to maintain a prima facie obviousness rejection of the claim. (See MPEP, at 2143.03, and 2143.01). Thus, the burden is initially on the Examiner to provide evidence as to why one of ordinary skill in the art would have been motivated to combine the individual elements to create the recited invention, and to demonstrate that this evidence existed in the prior art or in the knowledge generally available to one of ordinary skill in the art. (MPEP 2143.01). As such, Applicant respectfully submits that the combination does not disclose or suggest the invention as recited in claims 1, 2, 4-8, 10, 11, 13-15, and 17-23, and that there is insufficient evidence of a motivation that existed in the prior art and which would have motivated one of ordinary skill in the art to make the combination in the manner set forth in the office action.

Independent claim 1 recites: "...a processor configured to: automatically detect an impedance characteristic of a telephony network to which the communication apparatus is connected;...and combine data to be transmitted over said telephony network with said selected set of impedance control values...."

Independent claim 7 recites: "...means for automatically detecting an impedance characteristic of a telephony network to which the communication apparatus is connected;...means for combining data to be transmitted over said telephony network with said selected set of impedance control values...."

Independent claim 11 recites: "...automatically detecting an impedance characteristic of the telephony network to which the interface port is interfaced;...combining data to be transmitted over said telephony network with said selected set of impedance control values...."

And independent claim 15 recites: "...automatically detecting an impedance characteristic of said telephony network;...and combining values from said selected set of impedance control values with data that is to be communicated from said interface port to a remote communication device.

The Examiner appears to assert that Rahamim teaches each element of the independent claims, "but fails to teach 'automatic'...." Additionally, the Examiner appears to assert that each of Dahan, and Frantz cure this defect. Applicant respectfully disagrees.

Rahamim discloses a "programmable measurement circuitry 156...with adjustable parameters for measuring tip/ring voltage and loop current conditions on the lines of the telephone network 110." (Rahamim col. 8, lines 13-16). Rahamim also discloses: "[p]rogrammable line/ring impedance circuitry 162 is also provided to allow the DAA or host system circuitry 116 to program the electrical characteristics of the DAA as seen by the telephone network 110 to facilitate compliance with a variety of regulatory standards, including country-by-country ring loading." (Rahamim col. 8, lines 31-34). But the programmable measurement circuitry 156 does not detect an impedance characteristic of a telephony network, either manually or automatically. Further, while the programmable line/ring impedance circuitry 162 may modify an impedance of the device disclosed in Rahamim, it does not combine data to be transmitted over a telephony network with impedance control values.

Frantz discloses a device that transmits a series of tones, each tone being a single test frequency, and measures reflected power at each frequency. Then the device calculates an actual return loss measurement for each frequency, and attempts to match the return loss measurements with a predetermined impedance model. (See Frantz, at col. 5, lines 6-44). Even assuming *arguendo* that Frantz discloses a processor configured to automatically detect an impedance characteristic of a telephony network to which the communication apparatus is connected, Frantz neither discloses nor suggests combining data to be transmitted over said telephony network with said selected set of impedance control values.

Dahan discloses a modem that measures line voltage and determines whether the line voltage is sufficient to allow the modem to operate. If not, the modem incrementally modifies the loophold current in an attempt to set up initial operating conditions for the modem. If the modem reaches a minimum desired loophold current and has not yet achieved a sufficient line voltage, the modem adjusts an impedance of a gyrator circuit and again measures the line voltage. If the gyrator impedance reaches a maximum and the measured line voltage is still too low, the modem aborts the attempt to communicate. Additionally, Dahan discloses that the modem could adjust the gyrator impedance first and then adjust the loophold current. (See Dahan, at col. 9, line 41 to col. 10, line 45).

The Examiner asserts "Dahlan teaches a method and system for adaptively adjusting modem operating characteristics in (see col. 2 lines 23-41) wherein impedance level can be detected and automatically adjusted based on detected line characteristics for some modem." Applicants respectfully disagree.

The section of Dahlan cited by the Examiner recites:

"According to another aspect, the line interface circuit is electrically adaptable to meet desired and required operating characteristics. The circuit may, for instance, have selectively modifiable impedance and current segments. The control logic may cause these segments to change states so as to change the overall operating characteristics of the modem.

In this regard, if the modem had a way to know the voltage provided by the central office and the line impedance (along the telephone line between the central office and the modem), then the modem could adapt its operating characteristic as presently contemplated to interface with the telephone line in a way that would comply with applicable specifications. In particular, by knowing the supply voltage and the line impedance, control logic in the modem could readily compute the line voltage at the modem given various levels of modem impedance. Thus, the control logic could then adjust the modem impedance so as to comply with the applicable specification." (Dahlan, col. 2, lines 23-41, emphasis added).

Thus the teachings as asserted by the Examiner are preceded by the conditional premise, "if the modem had a way to know the voltage provided by the central office and the line impedance."

Additionally, in contrast to the Examiner's characterization of Dahlan, the section immediately following the section cited by the Examiner recites:

In most cases, however, it is not possible to directly measure the actual line impedance, or at least to do so quickly enough to reach an acceptable operating state within an acceptable timeframe. (The

European specification, for instance, requires a modem to reach the specified operating range within 20 milliseconds).

Thus, rather than actually measuring the line impedance, an exemplary embodiment of the invention starts by assuming what the line voltage will be. "(Dahlan, col. 2, lines 41-49).

Thus, Applicant respectfully submits that Dahlan neither discloses nor suggests a processor configured to automatically detect an impedance characteristic of a telephony network to which the communication apparatus is connected. Additionally, Applicant respectfully submits that Dahlan teaches away from the present invention.

But even assuming *arguendo* that Dahlan discloses a processor configured to automatically detect an impedance characteristic of a telephony network to which the communication apparatus is connected, Dahlan neither discloses nor suggests combining data to be transmitted over said telephony network with said selected set of impedance control values.

In responding to Applicant's arguments, the Examiner asserts that "it's well known to transmit data by configuring a universal modem to adjust impedance values manually based on location including country where the modem would be used." But the Examiner provides no reference to support such an assertion.

Further, the Examiner asserts that Applicant has admitted that the ability to superimpose transmitted data with impedance control values is prior art. Applicant respectfully disagrees.

Applicant admits that it is generally known that a desired impedance for a circuit may be simulated by varying the voltage produced by the circuit's voltage source according to a predetermined algorithm, as stated in the Specification at page 8, line 21 to p. 9, line 1. But the remainder of the section cited by the Examiner (page 9, line 1 to page 10, line 5) describes a preferred embodiment of the invention, which Applicant most certainly does not admit as being prior art.

Thus, Applicant respectfully submits that Rahimim, either alone or in combination with either of Dahan or Frantz, neither discloses nor suggests "...a processor configured to: automatically detect an impedance characteristic of a telephony network to which the communication apparatus is connected;...and combine data to be transmitted over said telephony network with said selected set of impedance control values...."

Accordingly, Applicant respectfully submits that the Examiner has failed to provide evidence that the individual claim elements of the independent claims exist in the prior art.

Further, regarding the motivation to combine Rahimim with either Dahan or Frantz, the Examiner asserts that one of ordinary skill in the art at the time of the invention would have been motivated to combine the references to make it “possible to provide a modem capable of conforming to different location standards or regulation without having to purchase another one.”

But the Abstract of Rahimim recites:

“In an alternate embodiment of the invention, the line side circuitry of the modem further includes programmable detection and measurement circuitry that is programmable to measure electrical characteristics (e.g., tip/ring voltage and loop current) of the telephone line interface connection and is capable of corresponding adjustments to enable compliance with applicable regulations. The system is software programmable via control signals sent across the high voltage isolation barrier to establish electrical parameters corresponding to a specific country where the equipment may be used.”

Thus Rahimim alone appears to meet the goal as asserted by the Examiner, and thus one of ordinary skill in the art would not be motivated to look elsewhere.

Additionally, regarding claims 2, 4-6, 8, 10, 13, 14, and 15-19, the Examiner asserts that the “combination teaches and renders obvious all the claimed subject matter of being able to control impedance either manually or automatically.”

But claim 2, for example, recites: “...wherein said processor is configured to continuously transmit said selected set of impedance control values during said communication session.”

Claim 8 recites: “...wherein said transmitting means continuously transmits said selected set of impedance control values during said communication session.”

And claim 17 recites: “...serially and continuously transmitting said selected set of impedance control values to a digital-to-analog converter during said communication session....”

Applicant respectfully submits that Rahimim, either alone or in combination with either of Dahan or Frantz, neither discloses nor suggests “...wherein said processor is configured to continuously transmit said selected set of impedance control values during said communication session,” and further, that the Examiner has failed to provide evidence that

Accordingly, Applicant respectfully submits that the Examiner has failed to provide evidence that the individual claim elements exist in the prior art.

Further, regarding claims 20-23, the Examiner asserts that the combination teaches that impedance characteristics would include line impedance data. Applicant respectfully disagrees.

Each of claims 20-23 recite: “...wherein the impedance characteristic of the telephony

network to which the communication apparatus is connected comprises at least one of an AC line impedance, a network balance impedance, a DC line impedance, or a ringer impedance.”

While col. 8 of Rahimim discloses measuring tip/ring voltage and loop current conditions, and also discloses circuitry line current sensing and determining Central Office battery and loop DC resistance, Applicant respectfully submits that neither Rahimim nor Dahan, either alone or in combination, disclose or suggest that the impedance characteristic of the telephony network to which the communication apparatus is connected comprises at least one of an AC line impedance, a network balance impedance, a DC line impedance, or a ringer impedance.

Thus, Applicant respectfully submits that independent claims 1, 7, 11, and 15 patentably distinguish over the cited art, and should be allowable for at least the above-mentioned reasons.


Further, Applicant respectfully submits that claims 2, 4-6, 8, 10, 13, 14, and 17-23, which ultimately depend from one independent claims 1, 7, 11, and 15, should be allowable for at least the same reasons as claims 1, 7, 11, and 15, as well as for the additional features recited therein.

CONCLUSION:

In accordance with the foregoing, Applicant respectfully submits that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the cited art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

Respectfully submitted,

Date 13 APR 2005

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